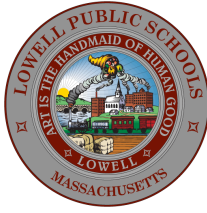


LOWELL PUBLIC
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Report from LHS on the After Dark Program

TO: Dr. Joel Boyd, Superintendent of Schools

FROM: Robin Desmond, Chief Academic Officer *Robin Desmond*

DATE: April 26, 2022

The following report is in response to the motion by Dominik Lay:

Ask superintendent for a report on "After Dark Program" at the high school. Do we have favorable response and what are we planning to do in the future?

Below is the response to this motion provided by Jill Rothschild, Lowell High School Assistant Head of School.



Lowell Public Schools

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MEMORANDUM

To: Robin Desmond, Chief Academic Officer, Lowell Public Schools
Fr: Jill Rothschild, Associate Head of School, Lowell High School
Cc: Michael Fiato, Head of School, Lowell High School;
Re: Updates on LHS After Dark Program

After Dark is a collaboration between Lowell High School and Greater Lowell Technical High School that provides LHS students with an opportunity to receive technical skills training in addition to their core academics. The program requires a two year commitment and is open to LHS students in their junior and senior years. To be eligible for participation, students must be passing all of their academic courses and have passed algebra 1 and geometry at the end of their sophomore year. Additionally, they must enroll in algebra 2, financial algebra or pre-calculus during their junior year.

Students who participate in the After Dark program have a modified class schedule - taking academic classes at LHS during the school day and technical training at GLTHS from 2:30 PM to 5:30 PM. Transportation is provided to and from GLTHS for all students. At present, Information Technology, Advanced Manufacturing, and Automotive Technology are offered. Course descriptions which identify attainable certifications and credentials are linked below.

Currently, 33 students are enrolled in the program. We have room to add an additional ten students to each program for the upcoming school year. Recruitment is ongoing and we are working to reinforce attendance requirements and target students who are not already participating in afterschool programming. Additionally, we remain in communication with the Vocational School to examine program offerings and student progress.

The program has been met with favorable responses from many students with 85% of students originally enrolled in the program on track for successful course completion. Five students however withdrew from the program and returned to a full LHS schedule because they had difficulty navigating their core classes alongside the evening vocational requirement. Several of these students also wished to participate in after-school programs and athletics which prevented

them from remaining in the program. As a result, we (are and will) continue to be strategic in our recruitment and retention of students. LHS has designated a College and Career Counselor to oversee program support and retention for the 2022-2023 school year. This counselor will work directly with students in the program in order to offer increased support and oversight.

LHS is committed to maintaining collaboration with GLTHS and moving forward with the program in subsequent years.

Course Descriptions:

[Information Technology](#)

[Advanced Manufacturing](#)

[Automotive Technology](#)

GLTHS/LPS AFTER DARK

Information Technology Services

Year one of the program will introduce students to the following fundamental big ideas of computer science: Creativity, Abstraction, Data and Information, Algorithms, Programming, The Internet and Global Impact. At the end of the course, students will take the College Board's Advanced Placement Computer Science Principles Exam. Students will also work toward their COMPTIA IT Fundamentals Certification. This certification introduces students to software, hardware, networking, and security. In addition, students will be introduced to creating websites using HTML and CSS. Students can also earn the OSHA 10 General Industry Certification and the new Cyber Safety Awareness Training and Certification. Advanced students may be introduced to Python Programming.

Year One Curriculum Highlights:

- AP Computer Science Principles
- CompTIA IT Fundamentals Certification
- TestOut IT Fundamentals Certification
- OSHA 10 General Industry Certification
- Cyber Safety Awareness Training and Certification
- Introduction to HTML and CSS
- Certiport Information Technology Specialist
 - HTML and CSS Certification
 - JavaScript Certification
 - Python Certification

Year two will build off year one. Students will build Windows, Web and Database apps using industry standard professional development environments in VB.NET and C#.NET. Students will increase their web design knowledge with more advanced HTML and CSS training. Students can earn the CIW Site Development Associate and Certiport Information Technology Specialist Certifications. Students will create resumes and as a capstone will build a published digital portfolio (website) to highlight their software development work and certifications that they have earned. Advanced students may be introduced to Java Programming.

Year Two Curriculum Highlights:

- Programming Fundamentals with Visual Basic.NET and C#.NET
- CIW Site Development Associate Certification
- Introduction to SQL
- Resumes
- Certiport Information Technology Specialist
 - Software Development Certification
 - Databases Certification
 - HTML 5 Application Development Certification
 - Java Certification

GLTHS/LPS After Dark Auto Technology

Automotive Technology Year One

Upon entering the automotive technology program, students will be introduced to the safety protocols and requirements. This will be achieved through instructor demonstration, OSHA 10 General training, and SP2 Safety training.

The class is divided into both classroom/computer studies and live hands on work on a variety of vehicles available for training. Areas of concentration will include automotive tools, measurement tools, and hardware and torque applications. As students become familiar with the basic hand tools and applications, they will focus on an in-depth study of under car systems, maintenance procedures, fluids, tire servicing and Hunter alignment systems.

The students are familiarized with the practices and customs used in industry. Areas of concentration include electrical, engine performance, engine mechanical, engine measurement, and digital multi-meters. Along with computer-based training, students are prepped with employability skills enabling them to prepare for employment and in the automotive field

The automotive shop program is enhanced with all latest state of the art equipment, tools and computer access including: IDENTIFIX, ALLDATA, and Mitchell Computer Based Learning. The course is aligned to Massachusetts State Frameworks for Automotive Technology.

Automotive Technology Year Two

Automotive Technology year two builds on technical competencies students learned year one. Students are able to achieve an entry level ASE Certification, OSHA 10 General certification, Valvoline Credentials, along with factory Ford Certifications. All of these enable the students to be prepared to enter employment positions through area businesses and automotive dealerships. Students who are eligible may enter cooperative education programs semester two of year two of the program.

GLTHS/LPS Advanced Manufacturing After Dark Program

Year One

Year one of the Advanced Manufacturing program will introduce students to basic CNC set-up and operation of the CNC Lathe and CNC Mill. Covering the importance of safety and safe operation of the CNC Lathe and Mill. Introduction to Mastercam programming and MDI (Manual Data Input) while using the HAAS Control Panel. The use of basic blue printing and sketches, basic measuring tools, micrometers, dial calipers, height gauges, and tolerances used to control sizes.

Each student will take the OSHA 10 Hour General Industry course to achieve their OSHA card certification.

While using the CNC Mill students will become proficient in the use of indicators, edge finders, and will learn how to properly touch off tools and make distance and tool length offsets at the machines.

Year One Shop and Classroom Highlights:

1. Shop Safety and Shop Standards
2. Basic CNC Lathe
3. Basic CNC Mill
4. Basic Blueprinting
5. Basic Set ups and Operation Info
6. Basic Metrology, Q.C Inspection and Measuring Concepts
7. OSHA 10 Hour General Industry Certification
8. Basic Blueprint Reading Intro.
9. Basic Machining Techniques on CNC Lathe and CNC Mills

Year Two

Year two of the After Dark Advanced Manufacturing Program will introduce the students to absolute and incremental programming, Manual CNC programming, Trigonometry to find points along a Bolt Circle, and will be introduced to Geometric Dimensioning and Tolerancing. Students will begin to become proficient at Mastercam drawings. The drawings will become more and more difficult. The importance of squaring the vise, tramming the head of the mill, using tooling like end mills, face mills, and how to square a block within .002 of an inch. Using precision stops, applying Quality Control Inspection techniques, and developing process plans.

Students will develop resumes, and will have the opportunity to attend trade shows where viable employers will do on the spot job interviews. Potential employers will give the students a chance to showcase their skills and accomplishments.

Another part of the certification process will involve sitting and taking the NIMS Certification Test, and sitting and taking the MACWIC State Test. Each of these tests will revolve around Machining knowledge, shop floor concepts, and safety.

Year Two Shop and Classroom Highlights:

1. Advanced use of Mastercam Software
2. Advanced Machining on CNC Lathe and Mills
3. Advanced Set-up and Operation Techniques
4. Use and application of Tooling under certain types of conditions
5. Machining aluminum, steel, brass, plastics, and polymers
6. Sitting and passing the MACWIC and NIMS Tests
7. Advanced blueprinting and sketching
8. Process Planning and Quality Control Inspection Techniques
9. Trigonometry and Geometric Dimensioning and Tolerancing application
10. Resume Writing
11. Preparing and taking job interviews